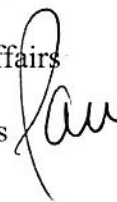# Tennessee Board of Regents

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Memorandum

To: Linda Doran, Associate Executive Director, Academic Affairs
          Betty Dandridge-Johnson Assistant Executive Director, Academic Affairs
          Tennessee Higher Education Commission

CC: Ellen Weed, Vice President for Academic Affairs, Nashville State
          Community College
          Randolph C. Schulte, Assistant Vice Chancellor for Academic Affairs

From: Paula Myrick Short, Ph.D., Vice Chancellor for Academic Affairs

Date: November 16, 2009

Subject: Embedded Certificates

On July 23, 2009, a meeting was held at the THEC office attended by the above to discuss the embedded certificate concept as it pertains to community college programs. We also discussed the feasibility of addressing the embedded certificate in our functional practices.

From this meeting, two deliverables were identified:
1. A white paper that provides a discussion of the embedded certificate concept, examples of its use in other systems of higher education, and evidence of the relationship of the embedded certificate to student success; and
2. A proposal to integrate embedded certificates with such present practices as a) identifying low producing programs; b) conducting program review/academic audit requirements for performance funding; and c) recognizing completers of academic programs.

Included is the white paper and proposal. The proposal has approval by the Tennessee Board of Regents, and TBR requests approval by the Tennessee Higher Education Commission.

Enclosures

Proposal for Embedded Certificates in Community Colleges

For purpose of this proposal, an *embedded certificate* is defined as a technical certificate program with the following characteristics: 1) a technical certificate approved by the TBR; 2) a technical certificate whose curriculum, content and requirements are contained within the greater requirements of a related associate degree (AS, AA or AAS) program; 3) a technical certificate for which the related degree program assumes responsibility for quality control and assurance; 4) a technical certificate that may be earned as a defined step towards earning an associate degree and thus may serve as an incentive for earning that degree.

The Tennessee Board of Regents proposes that embedded certificates at community colleges be recognized and incorporated in standard academic program practices as described below:

1. *Identifying low producing programs:* it is proposed that an individual embedded certificate not be subject to meeting annual graduation/completion rates. Rather, a cumulative measure of completers of all embedded certificates within a degree program will be used to determine whether or not the embedded certificates within that degree program are low-producing.
2. *Conducting program review/academic audit requirements for Performance Funding:* it is proposed that an individual embedded certificate not be required to conduct a separate program review/academic audit process but rather that the evaluation of the embedded certificate be incorporated into the review of the degree program in which it is contained. If the degree program in which it is contained is accredited by an approved agency and in good standing, then the embedded certificate is exempted from the program review/academic audit requirement.
3. *Recognizing completers of academic programs:* students will be issued the Technical Certificate for an embedded certificate program even when continuing to pursue further certificates or the related associate degree.

Embedded Certificates in Community Colleges

Community colleges play a vital role in American society, helping millions of adults to achieve their academic and personal goals and preparing workers for the modern economy. Community colleges comprise the largest single sector of American postsecondary education, enrolling more than 40 percent of all undergraduates . Unfortunately, far too many students end up dropping out of community college without earning a certificate or degree or transferring to another college or university. Roughly half of community college students complete a credential or transfer to a 4-year college after 6 years. In contrast, nearly two-thirds of students who begin in a 4-year institution complete a bachelor's degree in the same time period (Horn & Weko, 2009). Policymakers are increasingly holding community colleges accountable for student performance and are looking for ways to help them increase student success. National initiatives such as *Achieving the Dream: Community Colleges Count* are designed to help more community college students succeed, either by earning a certificate or degree or by transferring to another institution (Brock et al, 2007).

The most common means of assessing the effectiveness of career and technical programs has been by determining the percentage of students who complete programs and receive a degree or certificate. Identifying education attainment levels as a measure of success is firmly entrenched in both national and international rubrics and is prominent in the Making Opportunity Affordable: Tennessee Policy Audit report completed by the National Center for Higher Education Management Systems (NCHEMS). This report demonstrates that Tennessee awards all levels of degrees (including certificates) at a rate far below other states: in fact, ranks 45th nationally (NCHEMS, figure 9, 2009). Identifying strategies that would help to increase certificate and degree completion would be a best course of action.

Yet in many instances, the effectiveness of community colleges' occupational-technical programs may be more accurately determined by whether or not they are providing students with entry-level skills into the workforce or the ability to advance in their careers *independent of degree or certificate completion.* A recent study entitled "The Effectiveness of Occupational-Technical Certificate Programs: Assessing Student Career Goals" concluded that "students are very pragmatic in terms of their education and that they enroll for specific reasons and drop out when they achieve their goals" (Lohman, 2005). This study suggests that not only are students meeting their career goals, but also that the institution is meeting its goals as well since it is successful in preparing students for the workforce or in advancing them in existing jobs without the awarding of any credential at all.

This dilemma affects two student populations and reveals two accompanying problems. The two student populations include 1) first time college students who have no other postsecondary credential; 2) students who have already earned an academic credential or degree who are returning to college for the specific purpose of attaining knowledge and

skills for career enhancement. Furthermore, two problems arise from this situation of undocumented student goal completion: 1) the student carries forward no credential that affirms a particular level of accomplishment, knowledge or skill in the chosen field; 2) the institution receives no formal recognition of student success. The student goes forth only with "some college" while the institution only measures one more "non-completer".

One strategy that addresses this quandary is the integration of as an "embedded certificate" into an overall degree program. This concept is explained in a project entitled "Opening Doors to Earning Credentials" sponsored by the Manpower Demonstration Research Corporation as "Breaking a single credential program into a sequence of modules that can stand along and yield interim credentials recognized by local firms" (Kazis & Liebowitz, 2003). This strategy is recognized as one of several career path approaches that emphasize a series of stepping stones by which students can advance over time to successively higher levels of education and support (Jenkins, 2002). The goals of this embedded certificate strategy are as follows:

- Increase completion rates in credential programs because they are inherently linked to job skills requirements;
- Improve learning outcomes so that students are prepared for further levels of educational and career advancement;
- Increase the likelihood that module completion results in career advancement;
- Increase the number of students who continue their education into more advanced modules;
- Improve persistence toward attaining advanced certificates and Associate degrees. (Kazis & Liebowitz, 2003)

This strategy is actively incorporated into several existing state initiatives across the nation that are intent upon both opening career pathways for students and strengthening success rates in higher education performance.

For example, at a recent Workforce Policy Forum in Wisconsin, Julie Strawn with the Center for Law and Social Policy explained that identifying and implementing career pathway efforts has become a national Movement. In response to foundation, federal and state incentives such as the Perkins Act, US Career Connections and Joyce Foundation grants, six states (AR, CA, KY, MA, OH, OR) have formalized career pathways programs and several states have state workforce bridge initiatives (IL, KY, OR, WA). For example, in the Arkansas Delta Training and Education Consortium, a key accomplishment has been to get colleges to push job content of occupational programs down into the earlier parts of the pathway years with embedded certificates attached. And in Portland, Oregon, Portland, the principle partners are Worksystems Inc. (Portland WIB), Regional WIB, and 2 community colleges with more than 20 offerings, each with initial certificates that can be earned in 3-6 months, with wrap-around support services, and career and financial planning for longer-term goals (Strawn, 2008).

Perhaps the most extensive and integrated application of the embedded certificate concept is evidenced through the Career Pathways initiative of the Kentucky Community

and Technical College System. This initiative has applied multiple elements of instructional re-engineering, which include "chunking" curriculum and embedded certificates. For example, in the pathway to manufacturing careers, these three embedded certificates are earned with the General Education and Technical Core Courses within the AAS degree or can also be earned independent of the AAS degree (Bird, 2007):

- Integrated Manufacturing Technologies Certificate (6 courses with 2 labs)
- Materials Manufacturing Operations Certificate (6 courses)
- Quality Control Certificate (7 courses)

Further examples are illustrated at Hopkinsville (KY) Community College such as the Interdisciplinary Early Childhood Education program, which provides these certificate options couched within the AAS degree:

- (C) Child Care Assistant Certificate (9 hrs.)
- (C) Early Childhood Administrator Credential (12 hrs.)
- (C) Interdisciplinary Early Childhood Tech. Cert. (51hrs.)
- (C) Kentucky Child Care Provider Certificate (3 hrs.)
- (C) Kentucky Early Childhood Certificate (33-34 hrs.)

Of the many benefits already recorded in tracking the effectiveness the Kentucky initiative, the Career Pathways students had a higher retention rate (Fall 2005 to Fall 2006) of 71% to 46%, the average of all KCTCS community college students.

In Tennessee, technical certificates have long been a part of the educational menu for community college students. Some programs are self standing, such as the Home Manager Technical Certificate at Jackson State Community College described as follows:

> This course of study is designed for home management personnel who support persons with developmental disabilities and for individuals preparing for a career with community organizations that provide services and support for persons with developmental disabilities. This certificate is not designed to articulate with a degree program offered at Jackson State nor with a program offered by a non-collegiate institution. (http://www.jscc.edu/academics/certificates/home-manager.html)

In other situations, the technical certificate has been presented as a self standing educational objective in lieu of a degree program to which it may articulate. For example, the Business Management Technical Certificate at Columbia State Community College is designed to prepare students for advancement in the business community with the knowledge and concepts gained from a formal study of current management principles and practices. Courses from this program may be applied to the Associate of Applied Science degree in Business Management or General Technology. (http://www.columbiastate.edu/business-management-certificate).

This existing model is significantly different from a newly initiated embedded certificate model introduced by Nashville State Community College in its Logistics Technology Program:

> Logistics Technology prepares students for employment in the supply chain management field. The program is designed to introduce logistics principles to students seeking first-time employment in supply chain management or for more experienced individuals desiring to expand their knowledge. The program offers three sequentially progressive certificates [Logistics Technical Certificate, Transportation Technical Certificate, and Supply Chain Technical Certificate] that apply toward an Associate of Applied Science (A.A.S.) Degree in Logistics Technology. Students have the option of taking only one course, completing one or more certificates, or progressing to the Logistics Technology degree. (http://www.nscc.edu/catalog/dlogi.html)

For such a model to be more fully integrated, parameters for the development, implementation and continuous quality assurance of such programs may be workforce demand, credential value in the workplace, job placement rates, continuation rates into subsequent certificates or degrees, completion rates, and overall satisfaction of stakeholders.

While evidence suggests that the embedded certificate is an effective tool in enhancing student success to career pathways, other applications of the embedded certificate are evident. For example, Monroe Community College in the SUNY system now offers new certificates in sustainability, mathematics and advanced studies. According to Stuart Blacklaw, Dean of Curriculum, Monroe Community College's, these are different from the stand-alone certificates the college has always offered. "They are more like the minor you get along with your bachelor's degree," he says. Students will still pursue an associate's degree, but may add a secondary area of study. All three certificates have been approved by the New York State Education Department – the first embedded certificates to be offered within the SUNY system (http://www.monroecc.edu/etsdbs/PubAff.nsf). Thus the application of the embedded certificate concept in transfer programs may also be worthy of further exploration.

While still in the early stages of implementation in various educational settings nationwide, the embedded certificate concept holds promise to better provide greater access to students, more finely honed learning outcomes targeted to 21st century workplace needs, and more accurate measures of accomplishment and success for students and higher educational institutions alike.

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